



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND
INTERFERENCES

In re Application of

Johannes M.M. Verbakel, et al.

STORING AUDIO-CENTERED
INFORMATION WITH A MULTI-
LEVEL TABLE-OF-CONTENTS
(TOC) MECHANISM HAVING
REDUNDANT SUB-TOCS

Serial No. 10/056,366

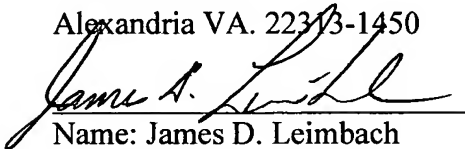
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Examiner: Kim-Kwok Chu

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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Serial No. 10/056,366

Real party in interest

The real party of interest is the Assignee who is U. S. Philips Corporation, a corporation existing under the laws of the State of Delaware (hereinafter Appellant).

Related appeals and interferences

There are no related appeals or interferences to the present application that are known to appellants, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of the Claims

Claims 10-42 are pending in the present application for invention. The Final Office Action dated May 3, 2005 rejected claims 10-25, 27, 29, 31-33, 35, 36, 40 and 42. The Final Office Action dated May 3, 2005 objected to claims 26, 28, 30, 32, 34, 37-39 and 41. Appendix I contains a copy of claims 10-42 in Appendix I as the Appealed Claims, following this brief.

Status of the Amendments After Final

A response was filed subsequent to the final rejection to overcome the Examiner's rejection of claims 10-24, 31, 32, 35, 36, 40, and 42 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-8, 24 and 30-33 of U.S. Patent No. 6,370,090 (hereinafter referred to as the '90 patent) in view of U.S. Patent No. 5,592,450 issued in the name of Yonemitsu et al. (hereafter referred to as *Yonemitsu et al.*). It should be noted that as of the date of filing for this appeal brief, no advisory action has issued that responds appellants' response filed subsequent to the final rejection.

A response was filed subsequent to the final rejection to overcome the Examiner's rejection of claims 10-19, 22, 23, 25, 27, 29, 31, 33, and 35 under the provisions of 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 6,198,877 issued to Kawamura et al.

(hereinafter referred to as *Kawamura et al.*) in view of U.S. Patent No. 5,592,450, issued to Yonemitsu et al. (hereinafter referred to as *Yonemitsu et al.*). It should be noted that as of the date of filing for this appeal brief, no advisory action has issued that responds appellants' response filed subsequent to the final rejection.

Summary of the Claimed Subject Matter

The invention relates to a method and apparatus for storing digital audio on a unitary media such as a disc for tape. The unitary media of the invention provides at least one master table of contents (TOC) and multiple copies of mutually logically conforming sub-TOCs within a single track (see page 6, lines 4-18). The master-TOCs contain pointers to various sub-TOCs and area-TOCs (see page 6, lines 27- 29).

The problems to be solved by the invention, as well the advantages of the invention are described in detail in the description (see pages 1-8). Briefly stated, the invention provides redundant sub-TOC mechanisms within a track, either of which can be accessed in the event that one of the sub-TOC mechanisms becomes corrupt or otherwise unreadable.

Appealed claim 10 defines subject matter for a method including: providing at least two mutually logically conforming sub-TOCs (see AREA TOC-1 and AREA TOC-2 in Figure 6) for the same track area in one or more track areas of a unitary storage medium (see Figure 1, reference numeral 11), each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17), thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs (page 6, lines 23-27); and providing at least one master-TOC having structures for storing information for determining the position of the sub-TOCs (see Figure 4, reference numeral 52; Figure 5, reference numeral 124; and page 5, line 31- page 6, line 32).

Appealed claim 22 defines subject matter for a unitary storage medium (see Figure 1, reference numeral 11), including: one or more track areas; at least two mutually logically conforming sub-TOCs assigned to a track area (see AREA TOC-1 and AREA TOC-2 in Figure 6), each sub-TOC having information structures for storing information specifying the

configuration of the same information items stored in the track area (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17), thereby allowing retrieving the configuration information for the same information item in the track area from at least any correct copy of the sub-TOCs (see page 5, line 31-page 6, line 32); and at least one master-TOC with information structures for storing information for determining the positions of each of the mutually logically conforming sub-TOCs (see Figure 4, reference numeral 52; Figure 5, reference numeral 124; and page 5, line 31-page 6, line 32).

Appealed claim 25 defines subject matter for an apparatus for controlling a reading device (see Figure 2; and page 3, line 16-page 5, line 32), including: first control means for positioning a read head at information items stored in a track area of one or more track areas of a unitary storage medium (see Figure 2, reference numeral 25; and page 3, lines 16-25), depending on configuration information read at times from each of at least two mutually logically conforming sub-TOCs assigned to the track area (page 4, lines 17-25; and page 5, line 31-page 8, line 13), each of the sub-TOCs specifying the configuration of the same information items stored in the track area (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17), thereby allowing retrieving the configuration information for the same information items from at least any correct copy of the at least two sub-TOCs (see page 5, line 31-page 6, line 32); and second control means for positioning the read head at times at each of the at least two sub-TOCs depending on position information read from at least one master-TOC (see Figure 4, reference numeral 52; Figure 5, reference numeral 124; and page 5, line 31-page 6, line 32).

Appealed claim 27 defines subject matter for an apparatus for controlling a recording device with a write head (see Figure 3; page 5, lines 4-25), including: first control means for positioning a write head to write information items in a track area of one or more track areas of a unitary storage medium, and writing the information items in the track area (see Figure 3, reference numeral 25; page 5, lines 9-15); and second control means for positioning the write head to write configuration information for the information items at times in each of at least two mutually logically conforming sub-TOCs assigned to the track area (see Figure 3; page 5, lines 4-25), and writing in each sub-TOC the configuration information for the same information items written in the track area, thereby allowing retrieving configuration information for the same information item from at least any correct copy of the mutually logically conforming sub-TOCs.

Appealed claim 28 defines subject matter for the recording device control apparatus of appealed claim 27 in which: the controller further comprising third control means for positioning the read head at a master-TOC (see page 5, line 4-25; and page 6, lines 25-27), and writing information in information structures of the master-TOC for determining the position of each sub-TOC for the write area (see page 6, lines 27-29); the storage medium is an optically readable disc (Figure 1, reference numeral 11; page 2, lines 13-21); the information items include audio information; two sub-TOCs assigned to a track area are positioned at opposite ends of the track area (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17); a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap (see page 8, lines 19-20); the number of sub-TOCs assigned to a track area is exactly 2 (see page 8, lines 14-29); the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium (see page 6, lines 25-27); the mutually logically conforming sub-TOCs contain information selected from: identical information (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17); and equivalent bitwise inverted information (see page 8, lines 16-17); the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure (page 6, lines 25-29) or the file structure; the file system for audio information conforms to a standard selected from: UDF; and ISO 9660 (see page 5, lines 26-30); the file structure includes a root directory that points to the master-TOC and to sub-directories (page 6, lines 25-29); the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels (see Figure 4; page 4, line 26-page 5, line 3); and the storage of the audio information is selected from one or more of a lossless compression format and a lossy compression format (see page 4, lines 8-16).

Appealed claim 29 defines subject matter for a unitary media, including: a read head for reading information from one or more track areas of a track of an optical disc (see Figure 2; and page 3, line 16-page 5, line 32); a disc driver for driving the track with respect to the read head; a clamping device for holding the disc in relation to the disc driver; control means for controlling the reading device the control means positioning a read head with respect to the track depending on configuration information (see Figure 2, reference numeral 25; and page 3, lines 16-25) including position information read at times from each of at least two mutually

logically conforming sub-TOCs assigned to each track area (page 4, lines 17-25; and page 5, line 31-page 8, line 13), each sub-TOC specifying the configuration of each information item stored in the track area (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17), thereby allowing retrieving configuration information for any information items from at least any correct copy of the mutually logically conforming sub-TOCs; and the control means positioning the read head at each of the at least two sub-TOCs depending on position information read from at least one master-TOC (see Figure 4, reference numeral 52; Figure 5, reference numeral 124; and page 5, line 31-page 6, line 32).

Appealed claim 31 defines subject matter for a recording device for a unitary storage medium, including: a master disc; means for pressing consumer discs from the master disc to record the consumer discs (see page 2, lines 13-21); and in which the master disc includes: one or more track areas (see page 2, lines 13-21); at least two mutually logically conforming sub-TOCs assigned to a track area (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17), each sub-TOC having information structures specifying the configuration of each information item stored in the track area, thereby allowing retrieving the configuration of any information item at least from any correct copy of the sub-TOCs (page 4, lines 17-25; and page 5, line 31-page 8, line 13); and at least one master-TOC with information structures specifying the positions of each of the mutually logically conforming sub-TOCs (see Figure 4, reference numeral 52; Figure 5, reference numeral 124; and page 5, line 31-page 6, line 32).

Appealed claim 33 defines subject matter for a recording device with a write head for a unitary storage medium, including: a write head for recording information on one or more track areas of a track of an optical disc (see Figure 3, reference numeral 25; page 5, lines 9-15); disc driver for driving the track with respect to the write head (see Figure 3; page 5, lines 4-25); a clamping device for holding the disc fixed in relation to the disc drive means; control means for controlling the recording device; the control means positioning the write head at times to write the information items in a track area and for subsequently writing the information items in the track area; the control means positioning the write head at times to write, in at least two mutually logically conforming sub-TOCs assigned to each track area (see Figure 3; page 5, lines 4-25), configuration information of the information items, each sub-TOC having structures for storing configuration information for each of the information items stored in the track area, and for

subsequently writing the information item configuration information into the sub-TOC structures, thereby allowing retrieving configuration information for any information items from at least any correct copy of the mutually logically conforming sub-TOCs.

Appealed claim 34 defines the subject matter for appealed claims 33 in which: the control means position the write head to write, in at least one master-TOC (Figure 4, reference numeral 52, Figure 5, reference numeral 124), information for determining the positions of the sub-TOCs (see Figure 3; page 5, lines 4-25), the master-TOC having structures for storing the information for determining the positions of each sub-TOC, and for writing the sub-TOC position determining information into the master-TOC structures (page 6, line 25-page7, line 7); the control means position the write head to write at least two mutually logically conforming sub-TOCs for the same track area of the unitary storage medium, each sub-TOC having structures for storing information for determining the configuration of each information items stored in the track area (page 4, lines 17-25; and page 5, line 31-page 8, line 13), thereby allowing retrieving the configuration of any information item in the track area from at least any correct copy of the sub-TOCs; the control means position the write head to write at least one master-TOC having structures for storing information for determining the position of the sub-TOCs (see Figure 3; page 5, lines 4-25); the write head is a read/write head used for reading information from the medium and writing information to the medium; the control means position the write head to read the information items stored in the track area depending on configuration information read at items from each of the mutually logically conforming sub-TOCs assigned to the track area (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17), each of the sub-TOCs specifying the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration information for the same information items from at least any correct copy of the at least two sub-TOCs (page 4, lines 17-25; and page 5, line 31-page 8, line 13); the control means control the reading of each information item by the write head positioned at the information item in the track area; the control means position the write head at times to read the information item configuration information at times from each of the sub-TOCs depending on position information read from the master-TOC (see Figure 3; page 5, lines 4-25); the control means control the reading of the configuration information by the write head positioned at each sub-TOC; the control means position the write head at times to read the position information of the

sub-TOCs from the master-TOC and control the reading of the position information from the master-TOC; the storage medium is an optically readable disc; the information items include audio information (see Figure 4 and pages 5, line 26-page 6, line 3); two sub-TOCs assigned to a track area are positioned at opposite ends of the track area (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17); a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap (see Figure 6, page 8, lines 14-29); the number of sub-TOCs assigned to a track area is exactly 2, (see the description related to AREA TOC-1 and AREA TOC-2 in the specification on page 6, lines 14-17); the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium (see page 6, lines 4-page 18); the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information (see page 8, lines 16-18); the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure (see page 5, line 26-page 6, line 3); the file system for audio information conforms to a standard selected from: UDF; and ISO 9660 (see page 5, lines 26-30); the file structure includes a root directory that points to the master-TOC and to sub-directories (see Figure 4); the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels (see page 5, line 26-page 6, line 3); and the storage of the audio information is selected from one or more or: a lossless compression format; and a lossy compression format.

Appealed claim 35 defines subject matter for an optical disc for storing audio-centered information on a unitary storage medium (see Figure 1, reference numeral 11) using a Table-of Contents (TOC) mechanism for therein specifying an actual configuration of various audio items on the medium, produced by: assigning at least two mutually logically conforming Sub-TOCs to each one of a set of one or more Track Areas on the unitary storage medium (see AREA TOC-1 and AREA TOC-2 in Figure 6), thereby allowing retrieving any constituent Sub-TOC part from at least any correct copy of the Sub-TOCs; and providing at least one master-TOC for specifically pointing to each of the Sub-TOCs (see Figure 4; page 5, line 26-page 8, line 29).

Grounds of Rejection to be Reviewed on Appeal

The issues presented for appeal are as follows:

- (1) whether claims 10-24, 31, 32, 35, 36, 40, and 42 are patentable under the judicially created doctrine of obviousness-type double patenting over claims 1-8, 24 and 30-33 of U.S. Patent No. 6,370,090 (hereinafter referred to as the '90 patent) in view of U.S. Patent No. 5,592,450 issued in the name of Yonemitsu et al. (hereafter referred to as *Yonemitsu et al.*); and
- (2) whether claims 10-19, 22, 23, 25, 27, 29, 31, 33, and 35 are patentable under the provisions of 35 U.S.C. §103(a), over U.S. Patent No. 6,198,877 issued to Kawamura et al. (hereinafter referred to as *Kawamura et al.*) in view of U.S. Patent No. 5,592,450, issued to Yonemitsu et al. (hereinafter referred to as *Yonemitsu et al.*).

Arguments

I. The rejection under the judicially created doctrine of obviousness-type double patenting.

The judicially created doctrine of obviousness-type double patenting was created to prevent unfair patent term extension. The references used in this rejection are the '90 patent (the parent case U.S. Patent No. 6,370,090) and *Yonemitsu et al.* (U.S. Patent No. 5,592,450). The present application for invention was filed after the enactment of The American Inventors Protection Act was enacted November 29, 1999, therefore, there should be no issues related to unfair patent term extension.

A. The rejection

Appealed claims 10-24, 31, 32, 35, 36, 40, and 42 are rejected under the judicially created doctrine of obviousness-type double patenting, over claims 1-8, 24 and 30-33 of U.S. Patent No. 6,370,090 (the '90 patent) in view of *Yonemitsu et al.* (U.S. Patent No. 5,592,450).

B. The references

The '90 patent issued from the parent case to the present invention. Claim 1 of the parent '90 provide patent protection for "at least two mutually logically conforming Sub-TOCs assigned to each of a set of one or more Track Areas, thereby allowing retrieving any constituent Sub-TOC part from at least any correct copy of said Sub-TOC". Claim 5 of the parent '90 provide patent protection for "storing audio-centered information on a unitary-storage includes storing the audio-centered information on an optically readable disc while using the Table-of-Content (TOC) mechanism for therein specifying an actual configuration of various audio items on said optically readable disc." The appellants, respectfully, assert that claims 1 and 5 of the '90 patent are representative of the subject matter for which patent protection is provided by the '90 patent.

Note that the sub-TOCs as defined by the claim to the '90 patent (such as exemplary claims 1 and 5 reproduced above) do not provide patent protection for the subject matter of each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs. The appellants respectfully point out that the foregoing subject matter is not provided with patent protection by any of claims to the '90 patent (U.S. Patent No. 6,370,090).

Yonemitsu et al. (U.S. Patent No. 5,592,450) disclose a method and apparatus for reproducing compressed data, including TOC information recorded in a plurality of sectors in at least one TOC track. The TOC information includes user track sector addresses and an application TOC that identifies parameters for accessing user information (see Abstract). The tracks of *Yonemitsu et al.* are divided into a lead-in area, a program area, and a lead-out area with the TOC information record in the lead-in area and user information contained within the program area (see column 3, lines 3-8). Application TOC information is recorded in the program area for identifying and accessing chapter user information (see column 3, lines 12-15). The application TOC can include fields of chapter data, with each field being associated with a chapter and including location and data format information for that chapter (see column 3, lines 24-32). The TOC region comprises one or more TOC tracks disposed in the lead-in area at negative sector addresses -32 to -1. Duplicate TOC regions can be disposed in the lead-in area (see column 11, lines 36-42, Fig. 3., Fig. 4a and Fig 4b). A copy of the TOC region can be

provided in the program area to have the TOC region accessible at non-negative addresses (see column 11, line).

Note that *Yonemitsu et al.* do not disclose or suggest that Application TOC data can be provided for each chapter. Moreover, *Yonemitsu et al.* do not disclose or suggest that redundant Application TOC can be provided within any chapter. The appellants respectfully point out that there is no disclosure, or suggestion, within *Yonemitsu et al.* for the TOC region to be redundantly reproduced within a chapter or a track.

C. The differences between the invention and the reference

With respect to claims 1-8, 24 and 30-33 of the '90 patent (U.S. Patent No. 6,370,090), the subject matter provided patent protection for sub-TOCs is most explicitly defined by claim 1 as "at least two mutually logically conforming Sub-TOCs assigned to each of a set of one or more Track Areas, thereby allowing retrieving any constituent Sub-TOC part from at least any correct copy of said Sub-TOC" and further defined by claim 5 as "storing audio-centered information on a unitary-storage includes storing the audio-centered information on an optically readable disc while using the Table-of-Content (TOC) mechanism for therein specifying an actual configuration of various audio items on said optically readable disc."

The claims to the '90 patent do not provide patent protection of the subject matter for each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs. Claim 5 to the '90 patent defines using the Table-of-Content (TOC) mechanism for specifying an actual configuration of various audio items on said optically readable disc. Claim 1 to the '90 patent provides patent protection for two mutually logically conforming Sub-TOCs assigned to each of a set of one or more Track Areas, thereby allowing retrieving any constituent Sub-TOC part from at least any correct copy of said Sub-TOC. None of the claims to the '90 patent provide patent protection for allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs as defined by appealed claims 10-24, 31, 32, 35, 36, 40, and 42.

The appellants respectfully submit that the '90 patent as the parent case of the present invention **can** be used as a basis for a double patenting rejection, but **cannot** be treated as

prior art. The appellants, respectfully, assert that In re Schneller, 397 F.2d 350, 158 USPQ 210 (CCPA 1968) should not apply to the present case. In re Schneller is applicable to situations where the subject matter recited in the claims of the application is fully disclosed and **covered** by a claim in the patent. The appealed claims define recite subject matter that is not fully covered by the claims to the '90 patent (U.S. Patent No. 6,370,090). The issue present here is one domination and not "obviousness" type double patenting. Domination being where one claim covers a later claim, which is not double patenting. In re Kaplan, 789 F.2d 1574, 1577, 229 USPQ 678, 681 (Fed. Cir. 1986). In re Schneller does not support the proposition that obviousness-type double patenting exists without any obviousness analysis when the application claim recites elements in addition to those recited in the patent claims. In the present case, the obviousness analysis provided does not create a *prima facie* case of obviousness for the subject matter that is not provided patent protection by the '90 patent.

The policy of the United States Patent Office for establishing a *prima facie* case of obviousness can be found in the MPEP at §2142. There are three basic criteria that must be met. "First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

The first criteria deals with the requirement for some suggestion or motivation, to make the combination provided by the prior art. The '90 patent that issued from the parent case provides patent protection for "at least two mutually logically conforming Sub-TOCs assigned to each of a set of one or more Track Areas, thereby allowing retrieving any constituent Sub-TOC part from at least any correct copy of said Sub-TOC". Claim 5 of the parent '90 clearly provides patent protection for "storing audio-centered information on a unitary-storage includes storing the audio-centered information on an optically readable disc while using the Table-of-Content (TOC) mechanism for therein specifying an actual configuration of various audio items on said optically readable disc." Therefore, the claims to the '90 patent provide patent protection for the Table-of-Content (TOC) mechanism specifying an actual configuration of various audio items on

said optically readable disc. The claims to the '90 patent do not provide patent protection for each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs.

Yonemitsu et al. do not disclose or suggest any sub-TOCs or chapter TOCs that are referenced by another Table of Content mechanism. Therefore, no disclosure, suggestion or motivation for creating Sub-TOCs with each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs.

Regarding the second criteria for a *prima facie* case of obviousness, the reasonable expectation of success must be found in the prior art, and not based on Applicants' disclosure. The rejection has failed to provide any support within *Yonemitsu et al.* that it would lead a person skilled in the art to believe that it is possible to read a second sub-TOC in a track after a failure in attempting to read a first sub-TOC in the same track. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). In order to establish a *prima facie* case of obviousness, there must be a reasonable expectation of success found within the prior art. *Yonemitsu et al.* only discusses a potential failure in reading the equivalent of a Master TOC. Accordingly, *Yonemitsu et al.* do not provide any reasonable expectation of success that it would be possible to read a second sub-TOC in a track after a failure in attempting to read a first sub-TOC in the same track.

The final criteria that references when combined must teach or suggest all the claim limitations, is not met by *Yonemitsu et al.* *Yonemitsu et al.* do not provide any disclosure or suggestion for creating redundant files within a single track that are accessible by a master TOC.

The Examiner's position is that *Yonemitsu et al.* disclose a TOC and a copy of the TOC in the same track area. The Examiner asserts that the TOC areas taught by *Yonemitsu et al.* disclose or suggest the sub-TOCs as defined by the appealed claims. The appellants, respectfully, disagree. The appealed claims define subject matter for redundant sub-TOCs within

the same track area and a master TOC mechanism having structures for determining the position for each of the sub-TOCs.

Yonemitsu et al. teach redundant master TOCs that are not referenced by any other TOC mechanism. The appealed claims do not define subject matter for redundant master TOCs. Using the definition of “track” that the Examiner employs in the Final rejection, the redundant TOC mechanisms taught by *Yonemitsu et al.* do not have structures for storing information for determining the configuration of the information items stored in the track area. The TOC as taught by *Yonemitsu et al.* provides disc information and track information (see Table 1 on Column 12) and not structures for storing information for determining the configuration of the information items stored in the track area.

The rejection admits that the ’90 patent does not provide coverage for the additional sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area. The Examiner’s position is that Figure 5 of *Yonemitsu et al.* teach the subject matter for an additional sub-TOC having structure storing information that can be used for determining the configuration of the same information items stored in the track area, allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs. The appellants, respectfully, disagree.

The appellants, respectfully, submit that Figure 5 of *Yonemitsu et al.*, and the description related thereto, teach creating a copy of what could reasonably be considered a master TOC mechanism as defined by the appealed claims. The rejection attempts to apply the TOC mechanisms of *Yonemitsu et al.* as an equivalent to the sub-TOCs defined by the appealed claims. The appellants assert that there is no equivalent within *Yonemitsu et al.* or *Kawamura et al.* to a master TOC as defined by the appealed claims that determine the position of the sub-TOCs. The TOC mechanisms as taught by *Yonemitsu et al.* are in a fixed location. The sub-TOCs defined by the appealed claims are not in a fixed location. The appellants, respectfully, submit that TOC mechanisms as taught by *Yonemitsu et al.* can not be considered as an equivalent to the sub-TOCs as defined by the appealed claims because the location of the sub-TOCs defined by the appealed claims are not fixed. The appealed claims define the master TOC to determine the location of the sub-TOCs. There is no disclosure, or suggestion, within *Yonemitsu et al.* for any TOC mechanism taught therein to have any purpose towards determining the location of anything that could reasonably be considered a sub-TOC as defined

by the appealed claims. Furthermore, there is no disclosure, or suggestion, within *Yonemitsu et al.* for any TOC mechanism not be in a fixed location.

The appellants, respectfully, assert that the use the TOC mechanism as taught by *Yonemitsu et al.* in an attempt to read on the sub-TOCs as defined by the appealed claims is an improper use of *Yonemitsu et al.* “If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The location of the TOC data within *Yonemitsu et al.* is a fixed position (see Figure 5). The sub-TOCs as defined by the appealed claims are not in a fixed location. The locations of the sub-TOCs as defined by the rejected claims are determined by the master TOC. The rejection attempts to use the TOC mechanisms taught by *Yonemitsu et al.* as being equivalent to the sub-TOCs defined by the appealed claims results in a modification that renders the TOC mechanisms of *Yonemitsu et al.* unsatisfactory for their intended purpose. The TOC mechanism of *Yonemitsu et al.* are in a fixed location that is already known. The rejection attempts to implement the TOC mechanism of *Yonemitsu et al.* in a manner such that TOC location must be determined renders the TOC mechanisms of *Yonemitsu et al.* unsatisfactory for their intended use that they be located in a known fixed location. There is no disclosure or suggestion within *Yonemitsu et al.* for the TOC mechanism to be in other than a known, fixed location.

Accordingly, the rejection of appealed claims 10-24, 31, 32, 35, 36, 40, and 42 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8, 24 and 30-33 of U.S. Patent No. 6,370,090 (the '90 patent) in view of *Yonemitsu et al.* (U.S. Patent No. 5,592,450) should be reversed.

II. The rejection of appealed claims 10-19, 22, 23, 25, 27, 29, 31, 33, and 35 under the provisions of 35 U.S.C. §103(a) as being obvious over *Kawamura et al.* in view of *Yonemitsu et al.*

A. The rejection under 35 U.S.C. S 103(a)

Claims 10-19, 22, 23, 25, 27, 29, 31, 33, and 35 are rejected under the provisions of 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 6,198,877 issued to Kawamura et al. (hereinafter referred to as *Kawamura et al.*) in view of U.S. Patent No. 5,592,450, issued to Yonemitsu et al. (hereinafter referred to as *Yonemitsu et al.*). The examiner's position as stated in the Final Office Action dated May 3, 2005 is that it would have been within the scope of one of ordinary skill in the art to include an additional TOC file as taught by *Kawamura et al.*, thereby allowing computer applications to retrieve data recorded in sectors having negative addresses within the storage medium of *Yonemitsu et al.* resulting in each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area

B. The references

Yonemitsu et al. (U.S. Patent No. 5,592,450) disclose a method and apparatus for reproducing compressed data, including TOC information recorded in a plurality of sectors in at least one TOC track. The TOC information includes user track sector addresses and an application TOC that identifies parameters for accessing user information (see Abstract). The tracks of *Yonemitsu et al.* are divided into a lead-in area, a program area, and a lead-out area with the TOC information being recorded in the lead-in area and user information in the program area (see column 3, lines 3-8). Application TOC information is recorded in the program area for identifying and accessing chapter user information (see column 3, lines 12-15). The application TOC can include fields of chapter data, with each field being associated with a chapter and including location and data format information for that chapter (see column 3, lines 24-32). The TOC region comprises one or more TOC tracks disposed in the lead-in area at negative sector addresses -32 to -1. Duplicate TOC regions can be disposed in the lead-in area (see column 11, lines 36-42, Fig. 3., Fig. 4a and Fig 4b). A copy of the TOC region can be provided in the program area to have the TOC region accessible at non-negative addresses (see column 11, line).

Note that *Yonemitsu et al.* do not disclose, suggest or mention in any way that Application TOC data be provided within each chapter. Moreover, there is no disclosure or suggestion within *Yonemitsu et al.* for any chapter to contain redundant Application TOC data.

The appellants respectfully point out that there is no disclosure, or suggestion, for any TOC region to be redundantly reproduced within a chapter or a track.

Kawamura et al. (U.S. Patent No. 6,198,877) teach a Disc TOC and numerous different program TOC mechanisms. It should be pointed out that the Program TOCs as taught by *Kawamura et al.* are all different and not redundant. There is no disclosure, suggestion or any mentioning within *Kawamura et al.* that would lead a person skilled in the art to believe that it is useful, desirable or that any beneficial effect would be gained from redundantly reproducing each or any of the Program TOCs.

C. The differences between the invention and the references

Yonemitsu et al. disclose a method and apparatus for reproducing compressed data, including TOC information recorded in a plurality of sectors in at least one TOC track. The TOC information includes user track sector addresses and an application TOC that identifies parameters for accessing user information (see Abstract). The tracks of *Yonemitsu et al.* are divided into a lead-in area, a program area, and a lead-out area with the TOC information is recording in the lead-in area and user information in the program area (see column 3, lines 3-8). Application TOC information is recorded in the program area for identifying and accessing chapter user information (see column 3, lines 12-15). The application TOC can include fields of chapter data, with each field being associated with a chapter and including location and data format information for that chapter (see column 3, lines 24-32). The TOC region comprises one or more TOC tracks disposed in the lead-in area at negative sector addresses -32 to -1. Duplicate TOC regions can be disposed in the lead-in area (see column 11, lines 36-42, Fig. 3., Fig. 4a and Fig 4b). A copy of the TOC region can be provided in the program area to have the TOC region accessible at non-negative addresses (see column 11, line).

Note that *Yonemitsu et al.* do not disclose, suggest or mention in any way that Application TOC data be provided within each chapter much less that redundant Application TOC be provided within any chapter. The appellants respectfully point out that there is no disclosure, or suggestion, for the TOC region to be redundantly reproduced within a chapter or a track.

Neither *Kawamura et al.* (U.S. Patent No. 6,198,877), nor *Yonemitsu et al.* (U.S. Patent No. 5,592,450) disclose, suggest, or provide any motivation for a person skilled in the art to modify these references to create at least two mutually logically conforming sub-TOCs for the same track area in one or more track areas of a unitary storage medium, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs. Furthermore, neither *Kawamura et al.*, nor *Yonemitsu et al.* disclose, or define subject matter that includes each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area.

Yonemitsu et al. teach a recording medium with an additional mutually logically conforming TOC in the storage medium as shown in Fig. 5. The additional TOC taught by *Yonemitsu et al.* is within the program area. There is no disclosure or suggestion within *Yonemitsu et al.* that would motivate a person of ordinary skill within the art to place redundant sub-TOC structures within the same track as recited by the appealed claims. Fig. 5 of *Yonemitsu et al.* illustrates a recording medium providing a single copy of the TOC in the program area. The appellants draw attention to the discussion of Fig. 5 within *Yonemitsu et al.* at column 11, line 56 through column 12, line 4, wherein, the TOC is described as being placed within the lead in area and the copy of the TOC being placed in the program area. The lead in area as discussed by *Yonemitsu et al.* on column 11, lines 34-55 is a separate area of the disc from the program area. There is no disclosure or suggestion within *Yonemitsu et al.* for placing redundant copies of the TOC data within the same track. Moreover, there is no disclosure, or suggestion, within *Yonemitsu et al.* for placing sub-TOC data for storing information for determining the configuration of the same information items stored in the track area, allowing retrieval of the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs and providing at least one master-TOC having structures for storing information for determining the position of the sub-TOCs as defined by appealed claim 10. Therefore, there are features that are recited by appealed claims that are not found in the combination made by the rejection.

The policy of the United States Patent Office for establishing a *prima facie* case of obviousness can be found in the MPEP at §2142. There are three basic criteria that must be met. "First, there must be some suggestion or motivation, either in the references themselves or

in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

Regarding the first criteria, the requirement for some suggestion or motivation, to make the combination provided by the prior art. Since, Yonemitsu et al. does not provide any sub-TOCs or chapter TOCs, and Nishida et al. relates to a DAT tape without any tracks, therefore, there is no motivation to combine the teachings of Yonemitsu et al. and Nishida et al. to create multiple sub-TOCs within a single track.

Regarding the second criteria for a *prima facie* case of obviousness, the reasonable expectation of success must be found in the prior art, and not based on Applicants' disclosure. The Final Office Action has failed to provide any support that in Nishida et al. or Yonemitsu et al. that it would be possible to read a second sub-TOC in a track after a failure in attempting to read a first sub-TOC in the same track. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). In order to establish a *prima facie* case of obviousness, there must be a reasonable expectation of success found within the prior art. There is no mention of not being able to read a chapter TOC within Nishida et al. Yonemitsu et al. only discusses a potential failure in reading the equivalent of a Master TOC. Accordingly, neither Nishida et al., nor Yonemitsu et al. provide any reasonable expectation of success that it would be possible to read a second sub-TOC in a track after a failure in attempting to read a first sub-TOC in the same track.

The final criteria, that the references when combined must teach or suggest all the claim limitations, is not met by Nishida et al. or Yonemitsu et al., alone or in combination. Neither Nishida et al., nor Yonemitsu et al. provide any teaching or suggestion for creating redundant files within a single track. Moreover, the rejection within the Final Office Action has not provided any motivation to modify the combination to provide redundant files within the same track, much less redundant sub-TOC files within the same track.

Appealed claim 10

Regarding appealed claim 10, the rejection asserts that *Kawamura et al.* teach the method of rejected appealed claim 10 except for providing of an additional mutually logically conforming sub-TOC for the same track area in one or more track areas of a unitary storage medium and the additional sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs.

The rejection alleges that Figure 5 of *Yonemitsu et al.* teaches a recording medium providing additionally mutually logically conforming TOCs in a unitary storage medium, wherein, the additional TOCs at structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the TOCs. The appellants would like to draw the Board's attention to the discussion of Figure 5 within *Yonemitsu et al.* at column 11, line 56 through column 12, line 4. *Yonemitsu et al.* discuss a TOC being placed within the lead in area and the copy of the TOC being placed in the program area. The lead in area as discussed by *Yonemitsu et al.* on column 11, lines 34-55 is a separate area of the disc from the program area. The sector address of the first track of the program area is identified as address 0. In Figure 5, *Yonemitsu et al.* illustrate the TOC data located within the lead in area and a copy of the TOC data being located within the program area, however, there is no discussion within *Yonemitsu et al.* for placing redundant copies of the TOC data within the same track. Moreover, there is no disclosure, or suggestion, within *Yonemitsu et al.* for placing sub-TOC data for storing information for determining the configuration of the same information items stored in the track area as recited by rejected claim 10. Therefore, there are features that are recited by appealed claim 10 that are not found within the combination made by the rejection.

The rejection further asserts that *Yonemitsu et al.* teach the advantages of making a duplicate copy of the TOC file, and that combined with the teaching of *Kawamura et al.* teach a master TOC that refers to a sub-TOC in a manner that it would have been obvious for person of ordinary skill within the art to create the storage medium as defined by appealed claim 10 to the present invention. The appellants, respectfully, assert that *Yonemitsu et al.* do not disclose or suggest a sub-TOC mechanism, much less redundant sub-TOC mechanisms. Furthermore,

Yonemitsu et al. do not disclose, or suggest, any form of a redundant TOC, whether it be a master TOC or a sub-TOC, that is referenced by another TOC as defined by the rejected claims.

Appealed claim 10 defines at least two mutually logically conforming sub-TOCs and at least one master-TOC having structures for storing information for determining the position of the sub-TOCs. The combination of *Yonemitsu et al.* with *Kawamura et al.* created by the rejection applies a definition of “track” that would logically result in redundant master TOC mechanisms capable of accessing a plurality of different Program TOC mechanisms that could each be individually accessed by either of the master TOC mechanisms; which is not the subject matter defined by appealed claim 10. Appealed claim 10 defines at least two mutually logically conforming sub-TOCs and at least one master-TOC having structures for storing information for determining the position of the sub-TOCs. The appellants respectfully point out that there is no motivation provided by either of the cited references (*Yonemitsu et al.* and *Kawamura et al.*) to modify this combination to create the subject matter defined by appealed claim 10. There is no disclosure, or suggestion, in either *Yonemitsu et al.* or *Kawamura et al.* for implementing redundant sub-TOCs as defined by appealed claim 10. Accordingly, there are features within appealed claim 10 that are not found the combination made by the rejection.

As stated in the MPEP at §2142, “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).”

Regarding the first point above, that there must be some suggestion or motivation, to make the combination provided by the prior art, the appellants, respectfully, point out that the rejection does not provide any suggestion or motivation within the cited references to make the combination made in the rejection. The rejection asserts that a person skilled in the art would be motivated to make the combination made by the rejection (*Yonemitsu et al.* and *Kawamura et al.*) because some computer applications do not easily recognize data recorded in the sectors having negative addresses. The appellants respectfully point out that the rationale given by the

rejection is the rationale given by *Yonemitsu et al.* for making redundant TOC areas. This rationale given by the rejection as found within *Yonemitsu et al.* would not lead to the creation of redundant Sub-TOCs as defined by the appealed claims. The Sub-TOCs as defined by the appealed claims provide redundant information on a track by track basis, and the Sub-TOCs as defined by the appealed claims are addressable by a Master TOC mechanism. The premise given by *Yonemitsu et al.* for making redundant TOC areas would not lead a person skilled in the art to create the Sub-TOC areas as defined by the appealed claims. *Yonemitsu et al.* does not provide any disclosure, suggestion or motivation for making redundant sub-TOC areas that can be referred to or addressed by another TOC.

The appellants, respectfully, draw the Board's attention to *Yonemitsu et al.* at column 11, line 56-column 12, line 4 wherein Figure 5 is discussed. The rationale for providing a redundant master TOC by *Yonemitsu et al.* is due to some computer applications not easily recognizing data that is recorded in sectors having negative addresses. *Yonemitsu et al.* do not disclose or suggest creating redundant sub-TOCs for determining the configuration of the same items stored within a track area as recited by appealed claim 10. There is no disclosure, or suggestion, by *Yonemitsu et al.* for creating additional mutually logically conforming sub-TOCs for the same track area in one or more track areas of a unitary storage medium and the additional sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs.

The specification to the present application for invention on page 8, lines 22-26 provides the motivation for creating redundant files within the same track to overcome interference through environmental and other influences. *Kawamura et al.* provides no redundancy at all.

Regarding a reasonable expectation of success that must be found in the prior art, and not based on Applicants' disclosure. The rejection has failed to provide any support within either *Kawamura et al.* or *Yonemitsu et al.* that it is possible to read a second sub-TOC in a track after a failure in attempting to read a first sub-TOC in the same track. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). In order to establish a *prima facie* case of obviousness, there

must be a reasonable expectation of success found within the prior art, and there has not been any reasonable expectation of success within the prior art provided by the Final Office Action.

The appellants, respectfully, assert that the rejection has employed a hindsight approach to attempt to pick and choose the elements defined by appealed claim 10. Even using a hindsight approach, there still remain recited claim elements that are not found in the combination made by the rejection. The rejection does not provide any indication, desire or usefulness of providing redundant structures indicative of the same information within a track that can each be accessed by another TOC mechanism in either of the prior art references. Moreover, the rejection has not provided suggestion for the usefulness of providing redundant sub-TOC files indicative of the same information within a track. The rejection has not provided any disclosure or suggestion for a master-TOC having structures for determining the position of the sub-TOCs.

Appealed claim 11

Appealed claim 11 defines the subject matter of appealed claim 10 plus the additional subject matter for storing the information items in the track area, storing in each of the sub-TOC structures the configuration of each of the information items including the content and position of the information items in the track area, storing in the master-TOC structures the information for determining the position of the at least two mutually logically conforming sub-TOCs. The rejection asserts that the combination of *Kawamura et al.* with *Yonemitsu et al.* teaches the storing in each of the sub-TOC structures the configuration of each of the information items including the content and position of the information items in the track area in a manner that is consistent with the subject matter defined by appealed claim 11. The appellants respectfully point out that the sub-TOCs as defined by appealed claim 11 are redundant. The rejection to appealed claim 11, attempts to apply the Program TOC mechanisms taught by *Kawamura et al.* which are not redundant. There is no redundancy, disclosed or suggested, by *Kawamura et al.* *Yonemitsu et al.* do not teach any form of a sub-TOC as defined by appealed claim 11.

Appealed claim 12

Appealed claim 12 defines the subject matter of appealed claim 10 plus the additional subject matter for wherein the information items include audio information. The rejection to appealed claim 12 applies the TOC mechanisms of *Yonemitsu et al.* against the sub-TOCs defined by appealed claim 10. The rejection to appealed claim 12 further applies the Program TOC mechanisms taught by *Kawamura et al.* against the additional subject matter defined by Claim 12 for wherein the information items include audio information. The appellant, respectfully, point out that the rejection to appealed claim 12 clearly illustrates the basic flaw that exist within the rejection to the appealed claims, that basic flaw being that *Yonemitsu et al.* do not teach a sub-TOC that is consistent with the sub-TOC as defined by the appealed. The Examiner is picking and choosing employing a hindsight approach without any disclosure or suggestion within the cited references to make the combination made except for using the rejected claims as a blueprint. The appellants assert that the features for the Program TOC as taught by *Kawamura et al.* can not be instantly moved into the TOC mechanism as taught by *Yonemitsu et al.* into order to make the combination made by the rejection absent some motivation to do so. The subject matter for each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs and providing at least one master-TOC having structures for storing information for determining the position of the sub-TOCs, wherein the information items include audio information is not disclosed or suggested by the combination of *Kawamura et al.* with *Yonemitsu et al.* made by the rejection.

Appealed claim 16

Regarding appealed claim 16, the rejection asserts that *Kawamura et al.* teach the features of appealed claim 16. Specifically, the rejection asserts that *Kawamura et al.* teach two sub-TOCs assigned to the same track area are positioned at opposite ends of the track area. The Examiner indicates Figure 1 of *Kawamura et al.* illustrates two sub-TOCs assigned to the same track area positioned at opposite ends of the track area. The appellants, respectfully, point out that *Kawamura et al.* do not disclose or suggest two sub-TOCs assigned to the same track area that are positioned at opposite ends of the track area. Figure 1 of *Kawamura et al.* shows a DISC

TOC towards the beginning of the disc map shown in Figure 1 and Program N towards the end. The Program TOC N is in the middle. The appellants assume that the Examiner is employing the same definition for “track” as being the tracking groove that was previously applied; however, this also is not at all clear from the rejection. The appellants, respectfully, assert that the rejection to appealed claim 16 clearly illustrates the basic flaw in the rejection to the appealed claims 10, this basic flaw being that *Yonemitsu et al.* do not teach a sub-TOC that is consistent with the definition of sub-TOC supplied by the appealed claims. The Examiner is picking and choosing employing a hindsight approach without any disclosure or suggestion within the cited references to make the combination made except for using the rejected claims as a blueprint. The appellants assert that it is not proper to alternatively apply the Program TOC taught by *Kawamura et al.* with the TOC mechanism taught by *Yonemitsu et al.* in a manner that is variable in order to repeatedly read them upon various elements of the appealed claims.

Appealed claim 17

The rejection to appealed claim 17 asserts that *Yonemitsu et al.* teach two sub-TOC files assigned to the same area is exactly two. *Yonemitsu et al.* do not teach two sub-TOC files. *Yonemitsu et al.* teach TOC mechanisms that could only reasonably be classified as redundant master TOC files. The appellants, respectfully, point out that there must be some rationale within the cited prior art references to substantiate the modification of the combination made by the rejection. No such rationale provided by the rejection for modifying the TOC mechanisms of *Yonemitsu et al.* to make them operate as the sub-TOCs as defined by appealed claim 17. There is no disclosure or suggestion within, *Kawamura et al.* or *Yonemitsu et al.*, either alone or in combination for the number of sub-TOCs to be exactly two.

Appealed claim 19

The rejection to appealed claim 19 asserts that *Yonemitsu et al.* teach the sub-TOC files are identical. The appellants, respectfully, point out that *Yonemitsu et al.* do not teach identical sub-TOC files. *Yonemitsu et al.* teach redundant TOC files that are at best equivalent to the master TOC as defined by the rejected claims. The rejection attempts to modify references in order find all the elements defined by the appealed claims. There must provide some rationale within the cited prior art references to substantiate the modification of the combination made by

the rejection. The rejection provides no such rationale. There is no disclosure or suggestion within, *Kawamura et al.* or *Yonemitsu et al.* either alone or in combination for sub-TOC files that are identical.

Appealed claim 25

Appealed claim 25, the rejection asserts that this claim is rejected for the same reasons as for appealed claims 10, 11 and 13. Accordingly, the appellants incorporate the above arguments for appealed claims 10, 11 and 13 into this appeal of claim 25. The rejection further states that claim 25 defines first control means for positioning a read head and second control means for positioning the read head are rendered obvious by the disc drive and controller of *Kawamura et al.* The appellants point out that appealed claim 25 defines that the first control means positions a read head at information items stored in a track area of one or more track areas of a unitary storage medium depending on configuration information read at times from each of at least two mutually logically conforming sub-TOCs assigned to the track area, each of the sub-TOCs specifying the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration information for the same information items from at least any correct copy of the at least two sub-TOCs; and second control means for positioning the read head at times at each of the at least two sub-TOCs depending on position information read from at least one master-TOC.

The appellants assert that *Kawamura et al.* do not disclosure or suggest first control means for positioning a read head and second control means for positioning the read head as defined by appealed claim 25. *Kawamura et al.* do not disclosure or suggest a first control means that position a read head at information items stored in a track area of one or more track areas of a unitary storage medium depending on configuration information read at times from each of at least two mutually logically conforming sub-TOCs assigned to the track area, wherein each of the sub-TOCs specifying the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration information for the same information items from at least any correct copy of the at least two sub-TOCs. Furthermore, *Kawamura et al.* do not disclosure or suggest second control means for positioning the read head at times at each of the at least two sub-TOCs depending on position information read from at least one master-

TOC. The appellants, respectfully, point out that the foregoing subject matter is also not disclosed or suggested by the disc drive and controller of *Yonemitsu et al.*

Appealed claim 27

Regarding appealed claim 27, the rejection asserts that this claim is rejected for the same reasons as for appealed claims 10, 11 and 13. Accordingly, the appellants incorporate the above arguments for appealed claims 10, 11 and 13 into this appeal of claim 27.

Appealed claim 27 defines subject matter for first control means for positioning a write head to write information items in a track area of one or more track areas of a unitary storage medium, and writing the information items in the track area; and second control means for positioning the write head to write configuration information for the information items at times in each of at least two mutually logically conforming sub-TOCs assigned to the track area, and writing in each sub-TOC the configuration information for the same information items written in the track area, thereby allowing retrieving configuration information for the same information item from at least any correct copy of the mutually logically conforming sub-TOCs.

The rejection to appealed claim 27 alleges that *Kawamura et al.* teach the foregoing subject matter. The appellants, respectfully, point out that *Kawamura et al.* do not disclose or suggest second control means for positioning the write head to write configuration information for the information items at times in each of at least two mutually logically conforming sub-TOCs assigned to the track area, and writing in each sub-TOC the configuration information for the same information items written in the track area, thereby allowing retrieving configuration information for the same information item from at least any correct copy of the mutually logically conforming sub-TOCs. The appellants, respectfully, point out that the foregoing subject matter is also not disclosed or suggested by the disc drive and controller of *Yonemitsu et al.*

Appealed claim 29

Regarding appealed claim 29, the rejection asserts that this claim is rejected for the same reasons as for appealed claims 10, 11 and 13. Accordingly, the appellants incorporate the above arguments for appealed claims 10, 11 and 13 into this appeal of claim 29.

Appealed claim 29 defines subject matter for control means for controlling the reading device wherein the control means position a read head with respect to the track depending on configuration information including position information read at times from each of at least two mutually logically conforming sub-TOCs assigned to each track area, each sub-TOC specifying the configuration of each information item stored in the track area, thereby allowing retrieving configuration information for any information items from at least any correct copy of the mutually logically conforming sub-TOCs and the control means positioning the read head at each of the at least two sub-TOCs depending on position information read from at least one master-TOC. The foregoing subject matter is not disclosed or suggested by *Kawamura et al.* or *Yonemitsu et al.*, either alone or in combination.

Appealed claim 33

Appealed claim 33 defines subject matter for control means for controlling the recording device wherein the control means position the write head at times to write the information items in a track area and for subsequently writing the information items in the track area and the control means position the write head at times to write, in at least two mutually logically conforming sub-TOCs assigned to each track area, configuration information of the information items, each sub-TOC having structures for storing configuration information for each of the information items stored in the track area, and for subsequently writing the information item configuration information into the sub-TOC structures, thereby allowing retrieving configuration information for any information items from at least any correct copy of the mutually logically conforming sub-TOCs. The foregoing subject matter is not disclosed or suggested by *Kawamura et al.* or *Yonemitsu et al.*, either alone or in combination.

Appealed claim 31

Regarding appealed claim 31, the rejection asserts that this claim is rejected for the same reasons as for appealed claims 10, 11 and 13. Accordingly, the appellants incorporate the above arguments for appealed claims 10, 11 and 13 into this appeal of claim 31.

The rejection further asserts that *Kawamura et al.* teach the subject matter for a master disc and pressing means in Figure 24. The appellants, respectfully, point out that appealed claim 31 defines subject matter for the master disc to contain at least two mutually logically conforming

sub-TOCs assigned to a track area, each sub-TOC having information structures specifying the configuration of each information item stored in the track area, thereby allowing retrieving the configuration of any information item at least from any correct copy of the sub-TOCs, and at least one master-TOC with information structures specifying the positions of each of the mutually logically conforming sub-TOCs. The foregoing subject matter is not disclosed or suggested by *Kawamura et al.* or *Yonemitsu et al.*, either alone or in combination.

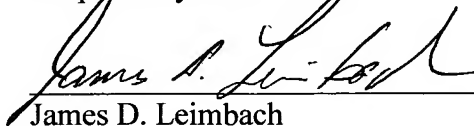
Appealed claim 35

Regarding appealed claim 35, the rejection asserts that this claim is rejected for the same reasons as for appealed claims 10, 11 and 13. Accordingly, the appellants incorporate the above arguments for appealed claims 10, 11 and 13 into this appeal of claim 35. The rejection further asserts that *Kawamura et al.* teach a TOC mechanism. Claim 35 defines subject matter for a TOC mechanism for specifying an actual configuration of various audio items on the medium by the assigning at least two mutually logically conforming Sub-TOCs to each one of a set of one or more Track Areas on the unitary storage medium, thereby allowing retrieving any constituent Sub-TOC part from at least any correct copy of the Sub-TOCs and providing at least one master-TOC for specifically pointing to each of the Sub-TOCs. The foregoing subject matter is not disclosed or suggested by *Kawamura et al.* or *Yonemitsu et al.*, either alone or in combination.

D. Conclusion

In summary, the Examiner's rejections of the claims are believed to be in error for the reasons explained above. The rejections of each of claims 10-24, 25, 27, 29, 31, 32, 33, 35, 36, 40 and 42 should be reversed.

Respectfully submitted,



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APPENDIX I. Claims on Appeal

10. A method for producing a unitary storage medium, comprising the steps of:

providing at least two mutually logically conforming sub-TOCs for the same track area in one or more track areas of a unitary storage medium, each sub-TOC having structures for storing information for determining the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration of the same information item in the track area from at least any correct copy of the sub-TOCs; and

providing at least one master-TOC having structures for storing information for determining the position of the sub-TOCs.

11. The method of Claim 10, further comprising the step of:

storing the information items in the track area;

storing in each of the sub-TOC structures the configuration of each of the information items including the content and position of the information items in the track area;

storing in the master-TOC structures the information for determining the position of the at least two mutually logically conforming sub-TOCs.

12. The method of Claim 10, wherein the information items include audio information.

13. The method of Claim 10, wherein the unitary storage medium is an optical disc.

14. The method of Claim 10, wherein the information is stored by pressing consumer discs from a master disc.

15. The method of Claim 10, wherein the information is stored using an optical write head.

16. The method of Claim 10, wherein two sub-TOCs assigned to the track area are positioned at opposite ends of the track area.

17. The method of Claim 10, wherein the number of sub-TOCs assigned to the track area is exactly 2.

18. The method of Claim 10, wherein the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium.

19. The method of Claim 10, wherein the mutually logically conforming sub-TOCs are identical.

20. The method of Claim 10, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

21. The method of Claim 10, wherein:

- the method further comprises the step of: storing the information items in the track area:

- storing in both the sub-TOCs structures the information for determining the content and position of each information item in the track area; storing in the master-TOC structures the information for determining the position of the at least two mutually logically conforming sub-TOCs;

- the information items include audio information;

- the storage medium is an optical disc;

- the information is recorded using a method selected from one or more of: pressing consumer discs from a master disc; using an optical write head;

- two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

- a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

- the number of sub-TOCs assigned to a track area is exactly 2;

- the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio conforms to a standard selected from: UDF, and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information items and another sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

22. A unitary storage medium, comprising:

one or more track areas;

at least two mutually logically conforming sub-TOCs assigned to a track area, each sub-TOC having information structures for storing information specifying the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration information for the same information item in the track area from at least any correct copy of the sub-TOCs; and

at least one master-TOC with information structures for storing information for determining the positions of each of the mutually logically conforming sub-TOCs.

23. The medium of Claim 22, wherein the medium is an optically readable disc.

24. The medium of Claim 22 wherein:

information items are stored in the track areas; the information for determining the configuration of each information item in the track area is stored in each sub-TOC; and the

information for determining the position of the at least two mutually logically conforming sub-TOCs is stored in the master-TOC;

the information items include audio information;

the information is recorded using a method selected from one or more of: pressing consumer discs from a master disc; using an optical write head;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information and a sub-directory containing audio information having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

25. Apparatus for controlling a reading device, comprising:

first control means for positioning a read head at information items stored in a track area of one or more track areas of a unitary storage medium, depending on configuration information read at times from each of at least two mutually logically conforming sub-TOCs assigned to the track area, each of the sub-TOCs specifying the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration

information for the same information items from at least any correct copy of the at least two sub-TOCs; and

second control means for positioning the read head at times at each of the at least two sub-TOCs depending on position information read from at least one master-TOC.

26. The reading control apparatus of Claim 25 in which:

the storage medium is an optically readable disc;

the information items include audio information;

the information is recorded using a method selected from one or more of: pressing consumer discs from a master disc; using an optical write head;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

27. Apparatus for controlling a recording device with a write head, comprising:

first control means for positioning a write head to write information items in a track area of one or more track areas of a unitary storage medium, and writing the information items in the track area; and

second control means for positioning the write head to write configuration information for the information items at times in each of at least two mutually logically conforming sub-TOCs assigned to the track area, and writing in each sub-TOC the configuration information for the same information items written in the track area, thereby allowing retrieving configuration information for the same information item from at least any correct copy of the mutually logically conforming sub-TOCs.

28. The recording device control apparatus of Claim 27 in which:

the controller further comprising third control means for positioning the read head at a master-TOC, and writing information in information structures of the master-TOC for determining the position of each sub-TOC for the write area;

the storage medium is an optically readable disc;

the information items include audio information;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

29. A reading device for a unitary media, comprising:

a read head for reading information from one or more track areas of a track of an optical disc;

a disc driver for driving the track with respect to the read head;

a clamping device for holding the disc in relation to the disc driver;

control means for controlling the reading device

the control means positioning a read head with respect to the track depending on configuration information including position information read at times from each of at least two mutually logically conforming sub-TOCs assigned to each track area, each sub-TOC specifying the configuration of each information item stored in the track area, thereby allowing retrieving configuration information for any information items from at least any correct copy of the mutually logically conforming sub-TOCs; and

the control means positioning the read head at each of the at least two sub-TOCs depending on position information read from at least one master-TOC.

30. The reading device of Claim 29 in which:

the storage medium is an optically readable disc;

the information items include audio information;

the information is recorded using a method selected from one or more of: pressing consumer discs from a master disc; using an optical write head;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

- a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;
- the number of sub-TOCs assigned to a track area is exactly 2;
- the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;
- the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;
- the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;
- the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;
- the file structure includes a root directory that points to the master-TOC and to sub-directories;
- the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and
- the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

31. A recording device for a unitary storage medium, comprising:

- a master disc;
- means for pressing consumer discs from the master disc to record the consumer discs;
- and in which the master disc includes:
 - one or more track areas;
 - at least two mutually logically conforming sub-TOCs assigned to a track area, each sub-TOC having information structures specifying the configuration of each information item stored in the track area, thereby allowing retrieving the configuration of any information item at least from any correct copy of the sub-TOCs; and
 - at least one master-TOC with information structures specifying the positions of each of the mutually logically conforming sub-TOCs.

32. The recording device of Claim 31 in which:

- the storage medium is an optically readable disc;
- the information items include audio information;
- the information items are recorded using an optical write head in the process for producing the master disc;
- two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;
- a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;
- the number of sub-TOCs assigned to a track area is exactly 2;
- the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;
- the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;
- the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;
- the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;
- the file structure includes a root directory that points to the master-TOC and to sub-directories:
- the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and
- the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

33. A recording device with a write head for a unitary storage medium, comprising:

- a write head for recording information on one or more track areas of a track of an optical disc;
- disc driver for driving the track with respect to the write head;
- a clamping device for holding the disc fixed in relation to the disc drive means;
- control means for controlling the recording device;

the control means positioning the write head at times to write the information items in a track area and for subsequently writing the information items in the track area;

the control means positioning the write head at times to write, in at least two mutually logically conforming sub-TOCs assigned to each track area, configuration information of the information items, each sub-TOC having structures for storing configuration information for each of the information items stored in the track area, and for subsequently writing the information item configuration information into the sub-TOC structures, thereby allowing retrieving configuration information for any information items from at least any correct copy of the mutually logically conforming sub-TOCs.

34. The recording device of Claim 33 in which:

the control means position the write head to write, in at least one master-TOC, information for determining the positions of the sub-TOCs, the master-TOC having structures for storing the information for determining the positions of each sub-TOC, and for writing the sub-TOC position determining information into the master-TOC structures;

the control means position the write head to write at least two mutually logically conforming sub-TOCs for the same track area of the unitary storage medium, each sub-TOC having structures for storing information for determining the configuration of each information items stored in the track area, thereby allowing retrieving the configuration of any information item in the track area from at least any correct copy of the sub-TOCs;

the control means position the write head to write at least one master-TOC having structures for storing information for determining the position of the sub-TOCs;

the write head is a read/write head used for reading information from the medium and writing information to the medium.

the control means position the write head to read the information items stored in the track area depending on configuration information read at items from each of the mutually logically conforming sub-TOCs assigned to the track area, each of the sub-TOCs specifying the configuration of the same information items stored in the track area, thereby allowing retrieving the configuration information for the same information items from at least any correct copy of the at least two sub-TOCs; the control means control the reading of each information item by the write head positioned at the information item in the track area;

the control means position the write head at times to read the information item configuration information at times from each of the sub-TOCs depending on position information read from the master-TOC; the control means control the reading of the configuration information by the write head positioned at each sub-TOC;

the control means position the write head at times to read the position information of the sub-TOCs from the master-TOC and control the reading of the position information from the master-TOC;

the storage medium is an optically readable disc;

the information items include audio information;

two sub-TOCs assigned to a track area are positioned at opposite ends of the track area;

a sub-TOC assigned to a track area positioned at one end of the track area is separated from the one end of the track area by a gap;

the number of sub-TOCs assigned to a track area is exactly 2;

the master-TOC is positioned at a predetermined offset location with respect to an initial location on the medium;

the mutually logically conforming sub-TOCs contain information selected from: identical information; and equivalent bitwise inverted information;

the storage medium also includes a file structure, and the information items may be accessed using either the TOC structure or the file structure;

the file system for audio information conforms to a standard selected from: UDF; and ISO 9660;

the file structure includes a root directory that points to the master-TOC and to sub-directories;

the sub-directories include a sub-directory containing stereo audio information items and a sub-directory containing audio information items having three or more channels; and

the storage of the audio information is selected from one or more of: a lossless compression format; and a lossy compression format.

35. An optical disc for storing audio-centered information on a unitary storage medium using a Table-of Contents (TOC) mechanism for therein specifying an actual configuration of various audio items on the medium, produced by the method of:

assigning at least two mutually logically conforming Sub-TOCs to each one of a set of one or more Track Areas on the unitary storage medium, thereby allowing retrieving any constituent Sub-TOC part from at least any correct copy of the Sub-TOCs; and providing at least one master-TOC for specifically pointing to each of the Sub-TOCs.

36. The medium of Claim 22, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

37. The apparatus of Claim 25, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

38. The apparatus of Claim 27, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

39. The reading device of Claim 29, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

40. The reading device of Claim 31, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

41. The recording device of Claim 33, wherein the information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of the information in another of the at least two mutually logically conforming sub-TOCs.

42. The optical disc of Claim 35, wherein information in one of the at least two mutually logically conforming sub-TOCs is a bitwise inversion of information in another of the at least two mutually logically conforming sub-TOCs.